

We Claim:

1                   1.       A method of scaling digital video information, said method  
2 comprising:  
3           accepting a scaling relaxation value, said scaling relaxation value specifying an  
4           amount to relax a scaling performed to prevent buffer underflow or overflow;  
5           and  
6           adjusting a scaling value with said scaling relaxation value.

1                   2.       The method of scaling digital video information as claimed in  
2 claim 1, said method further comprising:  
3           calculating said scaling value, said scaling value dependent on a current buffer  
4           usage.

1                   3.       The method of scaling digital video information as claimed in  
2 claim 1 wherein said adjusting a scaling with said scaling relaxation value comprises  
3 adding said scaling relaxation value to said scaling value and subtracting the product of  
4 said scaling value and said scaling relaxation value.

1                   4.       The method of scaling digital video information as claimed in  
2 claim 2 wherein said adjusting a scaling of a bit budget with said scaling relaxation value

3 comprises adding said scaling relaxation value to said scaling value and subtracting the  
4 product of said scaling value and said scaling relaxation value.

1                   5.       A method of tracking digital video information complexity, said  
2 method comprising:  
3               determining a complexity measure for a current digital video picture; and  
4               combining said complexity measure for said current digital video picture to a  
5               running average complexity measure for a series of digital video pictures in a  
6               manner that prevents said current digital video picture from significant  
7               changing said running average complexity measure for a series of digital video  
8               pictures .

1                   6.       The method of tracking digital video information complexity as  
2 claimed in claim 5 wherein said running average complexity is not allowed to change by  
3 more than a predetermined percentage.

1                   7.       The method of tracking digital video information complexity as  
2 claimed in claim 5 wherein said running average complexity is processed by a non-linear  
3 smoothing filter.

1                   8.     A computer-readable medium comprising a set of computer  
2 instructions for implementing a method of scaling digital video information, said set of  
3 computer instructions performing:  
4             accepting a scaling relaxation value, said scaling relaxation value specifying an  
5             amount to relax a scaling performed to prevent buffer underflow or overflow;  
6             and  
7             adjusting a scaling value with said scaling relaxation value.

1                   9.     The computer-readable medium as claimed in claim 8 wherein said  
2 set of computer instructions further perform:  
3             calculating said scaling value, said scaling value dependent on a current buffer  
4             usage.

1                   10.    The computer-readable medium as claimed in claim 8 wherein said  
2 adjusting a scaling with said scaling relaxation value comprises adding said scaling  
3 relaxation value to said scaling value and subtracting the product of said scaling value  
4 and said scaling relaxation value.

1                   11.    The computer-readable medium as claimed in claim 9 wherein said  
2 adjusting a scaling of a bit budget with said scaling relaxation value comprises adding  
3 said scaling relaxation value to said scaling value and subtracting the product of said  
4 scaling value and said scaling relaxation value.

1                   12.     A computer-readable medium comprising a set of computer  
2 instructions for tracking digital video information complexity, said set of computer  
3 instructions performing:  
4             determining a complexity measure for a current digital video picture; and  
5             combining said complexity measure for said current digital video picture to a  
6             running average complexity measure for a series of digital video pictures in a  
7             manner that prevents said current digital video picture from significant  
8             changing said running average complexity measure for a series of digital video  
9             pictures .

1                   13.     The computer-readable medium as claimed in claim 12 wherein  
2 said running average complexity is not allowed to change by more than a predetermined  
3 percentage.

1                   14.     The computer-readable medium as claimed in claim 12 wherein  
2 said running average complexity is processed by a non-linear smoothing filter.